



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

RBE350A93-3312-03-3

Job Sheet 170957



Part No: RBE350A93-3312-03-3

Job Qty: 6 ea

Part Name: Remover / Installer



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 1/24/18

Job Tracking No:

Due Date: 1/31/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG RBE350A93-3312-03 Rev F IPP Rev A 18.01.23 New issue DP Verify DD

Ship Via:

### Bill of Materials

### Job Routing

| Op No | Operation          | Qty   | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |           | Sign-off       |
|-------|--------------------|-------|------------|----------|-----------|---------|-----------------------|-----------|----------------|
|       |                    |       |            |          | Setup hrs | Run Hrs | Workcenter / Supplier | Lead Time |                |
| 90    | Start up Operation | 6 Ea  |            | 1/30/18  | 0.00      | 0.00    | Start Up Machining-3  |           | 18-2-12        |
| 120   | CNC Lathe          | 6 pcs |            | 1/31/18  | 0.00      | 6.00    | MORI SL-154           |           |                |
| 130   | QC                 | 6 pcs |            | 1/31/18  | 0.00      | 0.00    | QC2 Machining-4       |           |                |
| 140   | QC                 | 6 pcs |            | 1/31/18  | 0.00      | 0.00    | QC8 Machining-4       |           |                |
| 170   | Outsource          | 6 pcs |            | 1/31/18  | 0.00      | 0.00    | Outsource12           |           | AT 18/03/05    |
| 180   | Packaging          | 6 pcs |            | 1/31/18  | 0.00      | 0.00    | Packaging2            |           | AT 18/03/05    |
| 190   | QC                 | 6 pcs |            | 1/31/18  | 0.00      | 0.00    | QC6                   |           | 38             |
| 200   | Packaging          | 6 pcs |            | 1/31/18  | 0.00      | 0.00    | Packaging3-1          |           | MAR 06 2018    |
| 210   | QC21-SA            | 6 Ea  |            | 1/31/18  | 0.00      | 0.00    | QC21                  |           | 21 MAR 12 2018 |

Part Op 120 - 1-Machine as per DWG. FB 783 FOLIO REV: 3-80 2-Deburr

Descriptions: 170 - -Issue P/O to Groupe Altech; PO 03025 -Black oxide finish, MIL-C-13964, CLASS 1; MIL-C-16173 GRADE 4 -Certificate of Conformity is required

FEB 15 2018

### Job BOM

| Part / Item      | Component Name                                            | Quantity          | Operation             | Container |
|------------------|-----------------------------------------------------------|-------------------|-----------------------|-----------|
| MT-4140QT-R1.500 | AISI 4140 Quenched & Tempered Steel Round Bar 1.500" Dia. | .5400 ft (.09 ea) | 90-Start up Operation |           |

### Job Allocations

| Operation             | Component Part   | Required | Inventory | Allocated |
|-----------------------|------------------|----------|-----------|-----------|
| 90-Start up Operation | MT-4140QT-R1.500 | 1        | 6         | 0         |
|                       | SC09411          | .55      |           |           |

### Part Specifications

Specifications could not be found.

Plex 1/24/18 3:03 PM Dart.lajeunesse.marie

**DART**  
AEROSPACE  
**S041397**



Remover / Installer

**Dart Aerospace Ltd.**  
1270 Aberdeen Street  
Hawkesbury, ON K64 1K7  
CANADA  
TEL.: 1 613 632-5200  
Email: sales@dartaero.com  
www.dartaerospace.com

**UPDATE**

Work Order update only ☐

**DART**  
AEROSPACE

**PART NO: RBE350A93 - 3312 - 03 - 3**  
**Original Serial #: S041397**  
**Revision:**  
**Operation: Start up Operation 02/12/18**  
**Change No:**

Job No: 170957

**AGAINST DEPARTMENT/PROCESS**

|            |                          |                     |                          |             |                          |
|------------|--------------------------|---------------------|--------------------------|-------------|--------------------------|
| Cross tube | <input type="checkbox"/> | Water Jet           | <input type="checkbox"/> | Engineering | <input type="checkbox"/> |
| Small Fab  | <input type="checkbox"/> | Prod. Eng. Coord.   | <input type="checkbox"/> | Quality     | <input type="checkbox"/> |
| Finishing  | <input type="checkbox"/> | Rec/Store/Packaging | <input type="checkbox"/> | Other       | <input type="checkbox"/> |
| Composite  | <input type="checkbox"/> | Supplier            | <input type="checkbox"/> |             |                          |

MRB (QSI042) Approval

Disposition

Completed By

Lead hand / Supervisor  
Approval Verification

QC / QA Coordinator  
Approval

**Root Cause**

|                    |                          |                       |                          |
|--------------------|--------------------------|-----------------------|--------------------------|
| Environment        | <input type="checkbox"/> | No Re-verification    | <input type="checkbox"/> |
| Design             | <input type="checkbox"/> | Operator              | <input type="checkbox"/> |
| Doc/Data           | <input type="checkbox"/> | Offset/Setup          | <input type="checkbox"/> |
| Equip/Tooling      | <input type="checkbox"/> | Supplier              | <input type="checkbox"/> |
| Handling/Pre       | <input type="checkbox"/> | Training              | <input type="checkbox"/> |
| Material           | <input type="checkbox"/> | Use for Testing       | <input type="checkbox"/> |
| Internal Transport | <input type="checkbox"/> | Poor Information      | <input type="checkbox"/> |
| Tribal Knowledge   | <input type="checkbox"/> | Rushing               | <input type="checkbox"/> |
| LOA                | <input type="checkbox"/> | Product Improvement   | <input type="checkbox"/> |
| Substation         | <input type="checkbox"/> | Process Improvement   | <input type="checkbox"/> |
| Past Expiry Date   | <input type="checkbox"/> | Manufacturing Process | <input type="checkbox"/> |
| Misidentified      | <input type="checkbox"/> | Past Due              | <input type="checkbox"/> |

|                        |                          |
|------------------------|--------------------------|
| Pressure/Forced        | <input type="checkbox"/> |
| Bending                | <input type="checkbox"/> |
| Centre Not Concentric  | <input type="checkbox"/> |
| Cracks                 | <input type="checkbox"/> |
| Crimp/Kink/Ripple/Wave | <input type="checkbox"/> |
| Cuffs                  | <input type="checkbox"/> |
| Crushing               | <input type="checkbox"/> |
| Heat Treat             | <input type="checkbox"/> |
| Wave/Twist in Tube     | <input type="checkbox"/> |
| Marks/Chatter          | <input type="checkbox"/> |

**FAULT CATEGORY**

|                                   |                          |
|-----------------------------------|--------------------------|
| Temperature/Cure                  | <input type="checkbox"/> |
| Set-up                            | <input type="checkbox"/> |
| BOM/Route                         | <input type="checkbox"/> |
| Broken/Damage/Defect              | <input type="checkbox"/> |
| Inspection Incomplete/Unqualified | <input type="checkbox"/> |
| Contamination                     | <input type="checkbox"/> |
| Countersink                       | <input type="checkbox"/> |
| Cut Too Short                     | <input type="checkbox"/> |
| Instructions Incomplete/Unclear   | <input type="checkbox"/> |
| Drill Holes                       | <input type="checkbox"/> |

|                       |                          |
|-----------------------|--------------------------|
| Power Loss/Surge      | <input type="checkbox"/> |
| Folio/Program         | <input type="checkbox"/> |
| Grain                 | <input type="checkbox"/> |
| Weld                  | <input type="checkbox"/> |
| Wrong Stock Pulled    | <input type="checkbox"/> |
| Out of Sequence       | <input type="checkbox"/> |
| Off-set               | <input type="checkbox"/> |
| Mislabeled            | <input type="checkbox"/> |
| Fit/Function          | <input type="checkbox"/> |
| Misaligned/off center | <input type="checkbox"/> |

|                      |                          |
|----------------------|--------------------------|
| Positioned Wrong     | <input type="checkbox"/> |
| Outside Dimensions   | <input type="checkbox"/> |
| Over/Under tolerance | <input type="checkbox"/> |
| Part Incorrect       | <input type="checkbox"/> |
| Part Lost/Missing    | <input type="checkbox"/> |
| Part Moved           | <input type="checkbox"/> |
| Drawing              | <input type="checkbox"/> |
| Finish               | <input type="checkbox"/> |
| Misread              | <input type="checkbox"/> |
| Turning Sequence     | <input type="checkbox"/> |

OTHER :





DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

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| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                      | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Step #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | MRB (QSI042) Approval                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Completed By                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | QC / QA Coordinator Approval                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| Root Cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | FAULT CATEGORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Environment <input type="checkbox"/><br>Design <input type="checkbox"/><br>Doc/Data <input type="checkbox"/><br>Equip/Tooling <input type="checkbox"/><br>Handling/Pre <input type="checkbox"/><br>Material <input type="checkbox"/><br>Internal Transport <input type="checkbox"/><br>Tribal Knowledge <input type="checkbox"/><br>LOA <input type="checkbox"/><br>Substation <input type="checkbox"/><br>Past Expiry Date <input type="checkbox"/><br>Misidentified <input type="checkbox"/> | No Re-verification <input type="checkbox"/><br>Operator <input type="checkbox"/><br>Offset/Setup <input type="checkbox"/><br>Supplier <input type="checkbox"/><br>Training <input type="checkbox"/><br>Use for Testing <input type="checkbox"/><br>Poor Information <input type="checkbox"/><br>Rushing <input type="checkbox"/><br>Product Improvement <input type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Manufacturing Process <input type="checkbox"/><br>Past Due <input type="checkbox"/> | Pressure/Forced <input type="checkbox"/><br>Bending <input type="checkbox"/><br>Centre Not Concentric <input type="checkbox"/><br>Cracks <input type="checkbox"/><br>Crimp/Kink/Ripple/Wave <input type="checkbox"/><br>Cuffs <input type="checkbox"/><br>Crushing <input type="checkbox"/><br>Heat Treat <input type="checkbox"/><br>Wave/Twist in Tube <input type="checkbox"/><br>Marks/Chatter <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Temperature/Cure <input type="checkbox"/><br>Set-up <input type="checkbox"/><br>BOM/Route <input type="checkbox"/><br>Broken/Damage/Defect <input type="checkbox"/><br>Inspection Incomplete/Unqualified <input type="checkbox"/><br>Contamination <input type="checkbox"/><br>Countersink <input type="checkbox"/><br>Cut Too Short <input type="checkbox"/><br>Instructions Incomplete/Unclear <input type="checkbox"/><br>Drill Holes <input type="checkbox"/> | Power Loss/Surge <input type="checkbox"/><br>Folio/Program <input type="checkbox"/><br>Grain <input type="checkbox"/><br>Weld <input type="checkbox"/><br>Wrong Stock Pulled <input type="checkbox"/><br>Out of Sequence <input type="checkbox"/><br>Off-set <input type="checkbox"/><br>Misabeled <input type="checkbox"/><br>Fit/Function <input type="checkbox"/><br>Misaligned/off center <input type="checkbox"/> | Positioned Wrong <input type="checkbox"/><br>Outside Dimensions <input type="checkbox"/><br>Over/Under tolerance <input type="checkbox"/><br>Part Incorrect <input type="checkbox"/><br>Part Lost/Missing <input type="checkbox"/><br>Part Moved <input type="checkbox"/><br>Drawing <input type="checkbox"/><br>Finish <input type="checkbox"/><br>Misread <input type="checkbox"/><br>Turning Sequence <input type="checkbox"/> |
| OTHER : <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |

WITHOUT NOTICE  
WORK ORDER  
170957-MCS  
18-01-24

Technical drawing of a mechanical part, likely a bracket or flange, showing dimensions and tolerances.

Key dimensions and tolerances:

- Overall width: .945
- Central width: .510
- Fillet radius: R.03
- Central hole diameter:  $\phi 1.339$
- Side hole diameters:  $\phi 1.216 \pm .002$  and  $\phi 1.063$
- Thickness: .33
- Centerline: C SYM
- Note: R.06 2 PL.

Part identification: 170957-MCS, 18-01-24

**DART**  
AEROSPACE

|                                                                                                                                                                                                                                                                                          |  |                           |  |                                                                                                                             |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------|--|-----------------------------------------------------------------------------------------------------------------------------|--|
| PART NO.                                                                                                                                                                                                                                                                                 |  | RBE350A93-3312-03         |  | REV                                                                                                                         |  |
| TOOL NO.                                                                                                                                                                                                                                                                                 |  | RBE350A93-3312-03         |  | UNLESS OTHERWISE SPECIFIED:<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE AS FOLLOWS:<br>DIMENSIONS APPLY TO BOTH FRESH AND |  |
| DETAILS AND DATE                                                                                                                                                                                                                                                                         |  |                           |  |                                                                                                                             |  |
| DESIGNED BY: VM 17/12/2017                                                                                                                                                                                                                                                               |  | TOLERANCES:               |  |                                                                                                                             |  |
| DRAWN BY: VM 12/28/2017                                                                                                                                                                                                                                                                  |  | JACK S .006 FRACTIONS 2/1 |  |                                                                                                                             |  |
| CHECKED BY: VM 01/02/2018                                                                                                                                                                                                                                                                |  | X .01 ANGLES 2.5          |  |                                                                                                                             |  |
| MFG REVIEW BY: MD 01/02/2018                                                                                                                                                                                                                                                             |  | X .1 SURFACE              |  |                                                                                                                             |  |
| APPROVED BY: MD 01/02/2018                                                                                                                                                                                                                                                               |  | ROUGHNESS                 |  |                                                                                                                             |  |
| SCALE: NTS                                                                                                                                                                                                                                                                               |  | SHEET 5 OF 5              |  |                                                                                                                             |  |
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| THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD. |  |                           |  |                                                                                                                             |  |

**NOTES:**  
 1) MATERIAL: AISI 4140/4142 (28-32 Rc) OR 17-4PH-H900 SS  
 2) HEAT TREAT: N/A  
 3) FINISH: 4140/4142 = BLACK OXIDE / 17-4PH = NONE  
 4) SPEC: 4140/4142 = MIL-C-13924, CLASS 1; MIL-C-16173 GRADE 4 / 17-4PH = N/A  
 5) BREAK ALL SHARP EDGES .015 x 45° OR .015R  
 6) IDENTIFICATION: N/A



DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                              |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                          |  |                                              |  |
| Date : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Step #: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | QTY Effective : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | MRB (QSI042) Approval                        |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | Completed By                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Lead hand / Supervisor Approval Verification |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | QC / QA Coordinator Approval                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                              |  |
| Root Cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | FAULT CATEGORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                              |  |
| <div style="display: flex;"> <div style="flex: 1;">           Environment <input type="checkbox"/><br/>           Design <input type="checkbox"/><br/>           Doc/Data <input type="checkbox"/><br/>           Equip/Tooling <input type="checkbox"/><br/>           Handling/Pre <input type="checkbox"/><br/>           Material <input type="checkbox"/><br/>           Internal Transport <input type="checkbox"/><br/>           Tribal Knowledge <input type="checkbox"/><br/>           LOA <input type="checkbox"/><br/>           Substation <input type="checkbox"/><br/>           Past Expiry Date <input type="checkbox"/><br/>           Misidentified <input type="checkbox"/> </div> <div style="flex: 1;">           No Re-verification <input type="checkbox"/><br/>           Operator <input type="checkbox"/><br/>           Offset/Setup <input type="checkbox"/><br/>           Supplier <input type="checkbox"/><br/>           Training <input type="checkbox"/><br/>           Use for Testing <input type="checkbox"/><br/>           Poor Information <input type="checkbox"/><br/>           Rushing <input type="checkbox"/><br/>           Product Improvement <input type="checkbox"/><br/>           Process Improvement <input type="checkbox"/><br/>           Manufacturing Process <input type="checkbox"/><br/>           Past Due <input type="checkbox"/> </div> </div> | <div style="display: flex;"> <div style="flex: 1;">           Pressure/Forced <input type="checkbox"/><br/>           Bending <input type="checkbox"/><br/>           Centre Not Concentric <input type="checkbox"/><br/>           Cracks <input type="checkbox"/><br/>           Crimp/Kink/Ripple/Wave <input type="checkbox"/><br/>           Cuffs <input type="checkbox"/><br/>           Crushing <input type="checkbox"/><br/>           Heat Treat <input type="checkbox"/><br/>           Wave/Twist in Tube <input type="checkbox"/><br/>           Marks/Chatter <input type="checkbox"/> </div> <div style="flex: 1;">           Temperature/Cure <input type="checkbox"/><br/>           Set-up <input type="checkbox"/><br/>           BOM/Route <input type="checkbox"/><br/>           Broken/Damage/Defect <input type="checkbox"/><br/>           Inspection Incomplete/Unqualified <input type="checkbox"/><br/>           Contamination <input type="checkbox"/><br/>           Countersink <input type="checkbox"/><br/>           Cut Too Short <input type="checkbox"/><br/>           Instructions Incomplete/Unclear <input type="checkbox"/><br/>           Drill Holes <input type="checkbox"/> </div> </div> | <div style="display: flex;"> <div style="flex: 1;">           Power Loss/Surge <input type="checkbox"/><br/>           Folio/Program <input type="checkbox"/><br/>           Grain <input type="checkbox"/><br/>           Weld <input type="checkbox"/><br/>           Wrong Stock Pulled <input type="checkbox"/><br/>           Out of Sequence <input type="checkbox"/><br/>           Off-set <input type="checkbox"/><br/>           Mislabeled <input type="checkbox"/><br/>           Fit/Function <input type="checkbox"/><br/>           Misaligned/off center <input type="checkbox"/> </div> <div style="flex: 1;">           Positioned Wrong <input type="checkbox"/><br/>           Outside Dimensions <input type="checkbox"/><br/>           Over/Under tolerance <input type="checkbox"/><br/>           Part Incorrect <input type="checkbox"/><br/>           Part Lost/Missing <input type="checkbox"/><br/>           Part Moved <input type="checkbox"/><br/>           Drawing <input type="checkbox"/><br/>           Finish <input type="checkbox"/><br/>           Misread <input type="checkbox"/><br/>           Turning Sequence <input type="checkbox"/> </div> </div> |  |                                              |  |
| OTHER : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                              |  |



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER

## PO039039

**Supplier:** GRO002-VC  
Group Altech  
2455 Halpern  
St Laurent  
QC  
H4S 1N9 Canada  
Phone: 514-335-3666  
Fax: 514-335-3868

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**PO No:** PO039039  
**PO Date:** 2/14/18  
**Due Date:** 2/27/18  
**Purchase Order**  
**Revision:**  
**Revision Date:**  
**Ship-To Contact:** Phone:

**Via:** Ground  
**Pymt Terms:** Net 30  
**Freight Terms:**  
**Special Comments:**

| Items     |        |                     |                                                                                                                                                                                   |        |          |                |                   |         |                  |                |  |
|-----------|--------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------|----------------|-------------------|---------|------------------|----------------|--|
| Line Item | Job    | Part                | Description                                                                                                                                                                       | Status | Due Date | Order Quantity | Received Quantity | Balance | Unit Price (CAD) | Extended Price |  |
| 1         | 170480 | 646.3911            | Shim<br>Issue P/O: _____ Cad<br>Plating,<br>CAD PLATE PER QQ-P-416,<br>TYPE II, CLASS 2, CL2                                                                                      | Firmed | 2/27/18  | 32 pcs         | 0 pcs             | 32 pcs  | \$4.25/pcs       | \$136.00       |  |
| 2         | 170958 | RBE350A93-3312-03-5 | Seat<br>-Issue P/O to Groupe Altech;<br>PO _____<br>-Black oxide finish, MIL-C-13964,<br>CLASS 1; MIL-C-16173 GRADE 4<br>-Certificate of Conformity is<br>required                | Firmed | 2/27/18  | 6 pcs          | 0 pcs             | 6 pcs   | \$1.35/pcs       | \$8.10         |  |
| 3         | 170959 | RBE350A93-3312-03-7 | Washer<br>-Issue P/O to Groupe Altech;<br>PO _____<br>-Black oxide finish, MIL-C-13964,<br>CLASS 1; MIL-C-16173 GRADE 4<br>-Certificate of Conformity is<br>required              | Firmed | 2/27/18  | 6 pcs          | 0 pcs             | 6 pcs   | \$1.35/pcs       | \$8.10         |  |
| 4         | 170952 | RBE350A94-2704-00-1 | Plate<br>-Issue P/O to Groupe Altech;<br>PO _____<br>-Black oxide finish, MIL-C-13924C<br>Class 1<br>-Certificate of Conformity is<br>required                                    | Firmed | 2/27/18  | 20 pcs         | 0 pcs             | 20 pcs  | \$3.89/pcs       | \$77.80        |  |
| 5         | 170957 | RBE350A93-3312-03-3 | Remover / Installer<br>-Issue P/O to Groupe Altech;<br>PO _____<br>-Black oxide finish, MIL-C-13964,<br>CLASS 1; MIL-C-16173 GRADE 4<br>-Certificate of Conformity is<br>required | Firmed | 2/27/18  | 6 pcs          | 0 pcs             | 6 pcs   | \$1.35/pcs       | \$8.10         |  |



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER

## PO039039

| Items        |        |                          |                                                                                                                                                                         |        |          |                |                   |             |                       |                |
|--------------|--------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------|----------------|-------------------|-------------|-----------------------|----------------|
| Line Item    | Job    | Part                     | Description                                                                                                                                                             | Status | Due Date | Order Quantity | Received Quantity | Balance     | Unit Price (CAD)      | Extended Price |
| 6            | 170435 | RBT400325                | Socket Tail Boom Nut<br>-Issue P/O to Groupe Altech;<br>PO _____<br>-Black oxide finish, MIL-C-13924C<br>Class 1<br>-Certificate of Conformity is<br>required           | Firmed | 2/27/18  | 6 pcs<br>✓     | 0 pcs<br>6x       | 6 pcs<br>AT | \$1.35/pcs<br>8/13/25 | \$8.10         |
| 7            | 170781 | RBE8814164002            | Special Wrench<br>-Issue P/O to Groupe Altech;<br>PO _____<br>-Black oxide finish, MIL-C-13924C<br>Class 1<br>-Certificate of Conformity is<br>required                 | Firmed | 2/27/18  | 1 pcs          | 0 pcs             | 1 pcs       | \$1.95/pcs            | \$1.95         |
| 8            | 171171 | RBE350A93-<br>3307-00-01 | Retractor<br>-Issue P/O to Groupe Altech;<br>PO _____<br>-Black oxide finish, MIL-C-13964,<br>CLASS 1; MIL-C-16173 GRADE 4<br>-Certificate of Conformity is<br>required | Firmed | 2/27/18  | 6 pcs          | 0 pcs             | 6 pcs       | \$2.55/pcs            | \$15.30        |
| Grand Total: |        |                          |                                                                                                                                                                         |        |          |                |                   |             | \$263.45              |                |

### Order Notes

Procurement Quality Clauses  
A005 right of entry  
A012 chemical and physical test report  
A016 personnel qualification  
A017 raw material identification (as applicable)

A022 Apical Processing  
A024 process certifications  
A026 certification of material conformance

A041 quality management system  
A042 dart notification by supplier  
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit  
[www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Plex 2/23/18 9:58 AM dart.baker.diane





# Certificat de Conformité / Certificate of Compliance

(006931-1)

2455, Rue Halpern | Saint-Laurent | Québec | H4S 1N9  
 Tel: 514-335-3666 Fax: 514-335-3868  
 www.groupaitech.com

## Bon de Livraison / Packing Slip

**006931 - 1**

Livré à / Ship to

**DART AEROSPACE LTD**  
 1270 ABERDEEN STREET  
 HAWKESBURY, ON, K6A1K7  
 CANADA  
 Tel.: 613-632-5200 Fax.:

Client / Customer:

**DART AEROSPACE LTD**  
 1270 ABERDEEN STREET  
 HAWKESBURY, ON, K6A1K7  
 CANADA  
 BUYER:

| Date expédition<br>Ship date |                                                           | Créé Par<br>Generated By                               | Transport / No de Compte<br>Carrier / Acc. No. | Bon de commande Client<br>Customer Purchase Order No. |                 |                   |               |                        |  |
|------------------------------|-----------------------------------------------------------|--------------------------------------------------------|------------------------------------------------|-------------------------------------------------------|-----------------|-------------------|---------------|------------------------|--|
| 27-Feb-2018                  |                                                           | Aman Kaur                                              |                                                | <b>PO039039</b>                                       |                 |                   |               |                        |  |
| #Ligne<br>Line#              | No. de Série / # Pièce<br>Part Number / Line Item Details | Description pièce(s)                                   | CATG.<br>U/M                                   | Comm.<br>/Ordered                                     | Exp/<br>Shipped | Qté NC/<br>NC Qty | Qté<br>Scrap/ | À venir/<br>Back Order |  |
| 1                            | 646.3911<br>Rev.                                          | 646.3911<br>CAD PLATE PER QQ-P-416 TYPE 2 CLASS 2 ,CL2 | CADIUM<br>CH                                   | 32                                                    | 32              | 0                 | 0             | 0                      |  |
| 2                            | RBE350A93-3312-03-5<br>Rev.                               | RBE350A93-3312-03-5<br>01 -OXIDE BLACK [OXIDE BLACK ]  | BLACK-OXIDE<br>CH                              | 6                                                     | 6               | 0                 | 0             | 0                      |  |
| 3                            | RBE350A93-3312-03-7<br>Rev.                               | RBE350A93-3312-03-7<br>01 -OXIDE BLACK [OXIDE BLACK ]  | BLACK-OXIDE<br>CH                              | 6                                                     | 6               | 0                 | 0             | 0                      |  |
| 4                            | RBE350A94-2704-00-1<br>Rev.                               | RBE350A94-2704-00-1<br>01 -OXIDE BLACK [OXIDE BLACK ]  | BLACK-OXIDE<br>CH                              | 20                                                    | 20              | 0                 | 0             | 0                      |  |
| 5                            | RBE350A93-3312-03-3<br>Rev.                               | RBE350A93-3312-03-3<br>01 -OXIDE BLACK [OXIDE BLACK ]  | OXIDE-BLACK<br>CH                              | 6                                                     | 6               | 0                 | 0             | 0                      |  |
| 6                            | RBT400325<br>Rev.                                         | RBT400325<br>01 -OXIDE BLACK [OXIDE BLACK ]            | OXIDE-BLACK<br>CH                              | 6                                                     | 6               | 0                 | 0             | 0                      |  |
| 7                            | RBE8814164002<br>Rev.                                     | RBE8814164002<br>01 -OXIDE BLACK [OXIDE BLACK ]        | OXIDE-BLACK<br>CH                              | 1                                                     | 1               | 0                 | 0             | 0                      |  |
| 8                            | RBE350A93-3307-00-01<br>Rev.                              | RBE350A93-3307-00-01<br>01 -OXIDE BLACK [OXIDE BLACK ] | OXIDE-BLACK<br>CH                              | 6                                                     | 6               | 0                 | 0             | 0                      |  |

DAS  
38  
9-89

### Notes Additionnelles / Additional Notes

Epaisseur réelle  
Actual Thickness

Inspecteur Qualité  
Quality Inspector

Réçu par  
Received By

Nous certifions que les pièces énumérées ci-dessus ont été traitées en conformité avec votre commande et vos spécifications et rencontrent les exigences.  
 Notre responsabilité financière et légale ne sera pas supérieure au montant de la facture issue.

We hereby certify that the parts listed above have been process in accordance with your purchase order and specifications and are in conformance with your requirements.  
 Our financial and legal responsibility will not be higher than the amount of invoice.